Abstract

An optical waveguide can include a first region (12), a core (14) and a cladding (16). The core (14) surrounds the first region (12), and the cladding (16) surrounds the core (14). Typically, the core (14) includes an active material. In a further aspect, the invention features a system that includes two fibers (10, 48). One of the fibers has a first region, a first core (e.g., a multimode core) surrounding the first region, and a cladding surrounding the core. The other fiber has a core (e.g., a single mode core). The fibers can optically communicate so that energy can propagate from one of the cores to the other of the cores of the two fibers. Typically, at least one of the cores includes an active material.